

LLYN MORWYNION

ASSISTED REFILL

ARCHAEOLOGICAL WATCHING BRIEF

REPORT NO. 282

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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Prepared for Dwr Cymru Welsh Water

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LLYN MORWYNION PIPELINE (G1425)

Archaeological Survey and Watching Brief

1. INTRODUCTION

Dwr Cymru/Welsh Water have constructed a pipeline east of Llyn Morwynion, for the conveyance of water from the Afon Gam to Llyn Morwynion, Ffestiniog. The pipeline starts at SH75214246 and finishes at SH74194243.

Gwynedd Archaeological Trust (Contracts Section) was commissioned by Dwr Cymru/Welsh Water to carry out a survey and watching brief during the construction of the pipeline, which took place between 19th September and 31 December 1996, with some additional work in 1997.

2. ASSESSMENT BRIEF

An archaeological assessment was carried out in May, 1996 (GAT Report No. 206) in which recommendations were made for the recording of specific sites in advance of construction, and also for a watching brief.

The aims of the work were to record the archaeological sites 1, 3 and 5 as identified in Report No. 206, that is the dam across the Afon Gam, the water course which fed the slate mill of Foel Gron, and the track which runs west off the Ysbytty to Ffestiniog road. In addition a watching brief was to be carried out over the entire length of the pipeline, so that any archaeological sites uncovered during topsoil stripping of the pipeline could be recorded *in situ*.

3. METHODOLOGY

3.1 Field recording

This involved the recording of sites 1 (Dam) and 3 (water course) as described in Report No. 206. A measured survey was carried out using an electronic distance measuring machine, and the results were processed and output to CAD format. In addition, a photographic survey and written description were made of the features.

3.2 Watching Brief

An archaeological watching brief was conducted along the pipeline at specific times; a full time watching brief was not maintained as the results of the assessment did not appear to justify this. The top soil from the pipeline was not removed in advance, but the trench was dug for each pipe in turn. This meant that only a small part of the open trench was observed, i.e. some 10 metres, at each visit.

4. RESULTS OF SURVEY AND WATCHING BRIEF

4.1 Historical background

The land within the study area had belonged to the Crown since the Act of Union, but as an unenclosed sheepwalk it was habitually used by the local landlords, who directed their tenants to graze sheep there. The tithe map of 1842 confirms that by this stage the Crown had conceded ownership to the landlords (Dolgellau record office tithe and schedule, parish of Ffestiniog, parcels 99-108).

The road to Ysbytty Ifan and to Penmachno from Pont yr Afon Gam was built c. 1808 as a replacement for the ancient route over Bwlch Carreg y Fran and Cwm Teigl (Hyde Hall figs 14 and 15, pp. 136-7). It was believed that the Mostyn family were instrumental in its construction, and later accounts spoke of them making their way to Ardudwy from Dyffryn Conwy in their grand equipages until the Crimea route was built (*Slate Quarries of North Wales in 1873* 48, 52).

The construction of the road made possible a number of small-scale quarrying ventures which would otherwise have been defeated by poor transport. Foel Gron Quarry (SH744428) was opened by Ellin Williams, a tavern-keeper, who had been prospecting locally since 1837, and is thought to have started work in the 1850s. The lease later passed to William Griffith, a sweet-seller, though systematic exploitation began with the Yorkshireman Thomas Carter, who purchased the lease from Griffith. An account of 1873 notes that he "has supplied the quarry with every convenience

in the way of machinery, houses, &c." - though he adds "The operations have not as yet led to any great results" (*Slate Quarries of North Wales in 1873* 48, 52). By 1883 only four men were at work, though the quarry evidently struggled on into the twentieth century (Richards 149).

Groes y Ddwy Afon quarry was opened in 1861, and was operated from 1920 to 1932 by L.M. and D.M. Colman of Leicester, the mustard merchants. It remained in operation until 1953, and was reopened in 1987, initially to provide work for striking quarrymen, later by Nationwide Slate Products Ltd, but operations fell victim to the recession of the late 1980s and have ground to a halt. Its manager for many years was Sir Evan Jones (1868-1949), a no-nonsense, friendly, foul-mouthed individual, still remembered with affection in Blaenau Ffestiniog. He began his working life as a slatemaker in Maenofferen Quarry, and became manager of Groes y Ddwy Afon in 1897. After a spell at Rhosydd Quarry and war service, when he captained the Welsh Miners' Tunnelling Company and was twice mentioned in dispatches, he returned to Groes y Ddwy Afon in 1930. Active in local politics, he was knighted in 1935 (Denton J, Lewis MJT 16); Ernest Jones remarks of him "Though he had a reputation as a rank Tory, there are fewer more *gwerinol* individuals than Evan Jones" (Jones 156).

Both quarries made use of hydraulic systems to power the machinery in their mills. In this respect they were typical of upland slate quarries in locations where rain was plentiful and where transport costs for coal would be prohibitively expensive. Groes y Ddwy Afon's mill stood right outside the adit which gave access to the underground workings, a single-pitch structure with a catslide extension along the south longitudinal wall (CRO XS 1608 6 10), and was powered from a waterwheel in its eastern gable end. Foel Gron's mill, in existence by 1873, was built at some distance from the quarry, to which it was connected by a tramway, in order to tap the same hydraulic system, based on the Afon Gam, as its neighbour. However, in its last phase of use, a small oil engine did duty powering the mill.

The water-resources of the immediate area found another use in the nineteenth century, namely for domestic purposes. The rapid expansion of Blaenau and Llan Ffestiniog from the 1850s to the 1870s (3,460 to 11,234 [Jones 159]), created a pressing need for a clean and reliable supply of domestic water. A private company was established in 1859 to tap the supply from Llyn Morwynion, but it only served Llan Ffestiniog, whilst Blaenau itself grew notorious for its filth and squalour (*Slate Quarries of North Wales in 1873* 20-21). After the establishment of a Local Board of Health in the wake of the Health Act of 1875, soon supplanted by the Local Board set up in 1879, the decision was taken to purchase and improve the facilities at Llyn Morwynion, which were bought at a cost of over £1,000, and over seventeen miles of piping installed (Jones 93).

4.2 Gazetteer of sites

Below is a list of sites which were affected by the construction work.

1. Dam SH7521426

A dam built to provide water for the mill at Groes y Ddwy Afon quarry, consisting of two parallel stone walls which formerly enclosed a peat infill. The downstream wall is approximately 2m wide in cross-section at the base, narrowing to 1m+ at the top. The upstream wall stands 1.2m high and 1m wide, with vertical faces on the downstream side only. There is a space of 3m between the two walls for the peat infill, which has now mostly vanished.

On the site of the lake itself, now drained, there are eleven sections of an 18" ceramic pipe by Dennis of Rhiwabon.

Part of the construction of the new pipeline has involved the insertion of a concrete sluice where the former wooden sluice would have been, and the infilling of the gap between the parallel walls with earth and stone.

2. Mill leat

A leat leads from the remains of a wooden sluice mechanism at the western end of (1) to carry water west to the mill at Groes y Ddwy Afon Quarry. It is partly rock-cut, partly built on a channel of slate slabs and at one point appears to have been carried on now-vanished wooden ducting across the Afon Gam. It disappears into a slate-built tunnel approximately 0.5m wide. A fragment of the leat is visible to the south of the adit mouth.

3. Adit, Groes y Ddwy Afon Quarry

The entrance to the workings of the quarry. At Groes y Ddwy Afon slate was exploited in underground chambers on two levels, accessed by a level tramway. Recent (1980s) operations have untopped the underground workings, access to which is now by lorry.

4. Groes y Ddwy Afon Quarry slate mill (site of)

The site of the mill which sawed the raw blocks emerging from the mine at Groes y Ddwy Afon Quarry. The area itself has been much disturbed by recent developments at the quarry, principally the construction of a lorry road to allow untopping, but the 1900 25" ordnance survey map confirm that this was a rectangular building orientated east to west, powered by a waterwheel in its eastern gable wall.

5. Mill leat SH75084240 to SH74704233

A rock-cut water-course approximately 1m wide and 0.75m deep, leading from a simple take-off point on the river to a holding pond at SH74704233 serving the Foel Gron quarry mill. It is in places obscured and has at one point been eroded away by the Afon Gam.

The majority of this leat has been removed during the construction of the pipeline, but certain parts are still visible.

6. Holding pond SH74704233.

A now largely drained holding pond, with the fragmentary remains of a stone wall, which may have carried a channel to a sluice by the main road.

7. Foel Gron Quarry slate mill SH747423

The site of the Foel Gron mill, which was served by a tramway which crossed the Ysptyty to Ffestiniog road, and powered by a water-channel from 5. The site is now only visible as slate rubble and some sawn slate blocks. The 1900 25" ordnance survey map shows a rectangular structure orientated north to south, powered by a waterwheel built alongside the west longitudinal wall. However, this is known to have been replaced by an oil engine before the quarry closed.

4.3 Watching Brief

An intermittent watching brief was conducted during the digging of the pipeline between the dam and the reservoir. Only relatively small lengths of the trench were open at any one time (see 3.2 above), and no archaeological remains were observed in the sections which were examined.

Towards the east end of the pipeline, the trench was dug through rock, but where the trench followed the line of the Foel Gron leat then peaty levels were more apparent. Of the latter, the observed sections were all similar in character, and consisted of dark anaerobic peat containing woody material. In places the peat was over 1.5 m deep; there were no intermittent layers visible within the peat. Towards the west end, as the trench got further from the Afon Gam, the peat overlay glacial clays. However, west of the B4407 the peat was again deeper, and its full depth was not established.

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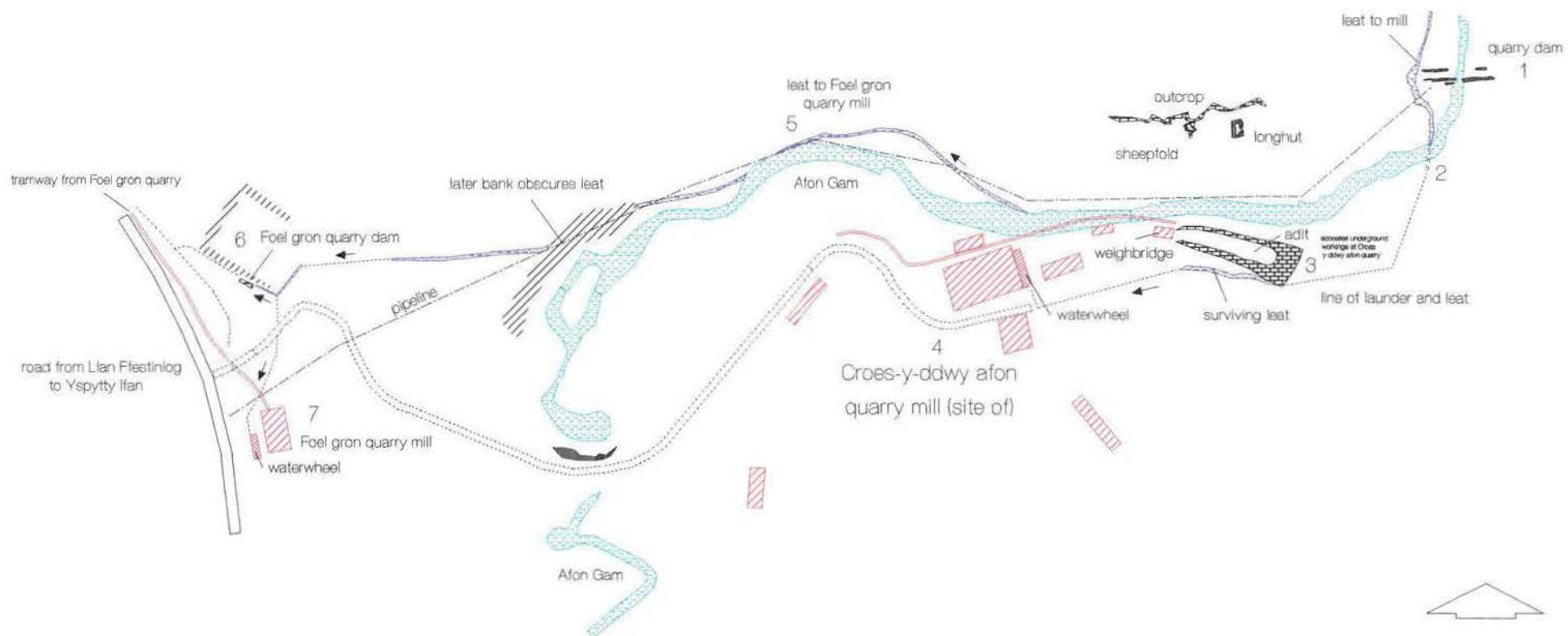
Aerial photograph held by the Countryside Council for Wales, Run 27 photographs 127-130.
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5.2 Maps

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<p>GWYNEDD</p> <p>YMDIRIEDOLAETH ARCHAEOLEGOL</p>  <p>ARCHAEOLOGICAL TRUST</p> <p>Craig Beuno : Ffordd y Garth : Bangor : Gwynedd LL57 2RT Tel/Fon 01248 262536 : Fax/Ffôn 01248 378925</p>	<p>Description</p> <p>Croes-y-ddwy afon slate quarry</p>	<p>Project number:</p> <p>1425</p> <p>Drawing number:</p> <p>1425/01</p> <p>Scale:</p> <p>1:2000</p>	<p>Surveyed by:</p> <p>LAD DRHG AJ5</p> <p>Drawn by:</p> <p>LAD</p> <p>Date:</p> <p>30.10.96</p>	<p>Notes and revisions:</p> <p> features taken from 1901 OS 25'</p>	<p>Client:</p>  <p>DŴR CYMRU WELSH WATER</p>
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Plate 1 : Site 1 - dam after rebuilding



Plate 2 : Long hut north of pipeline



Plate 3 : Site 5 - Leat to Foel Gron - take-off point



Plate 4 : Excavation through peat west of road

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